



US007355137B2

(12) **United States Patent**
Kawasaki et al.

(10) **Patent No.:** **US 7,355,137 B2**
(45) **Date of Patent:** **Apr. 8, 2008**

(54) **WATERPROOF STRUCTURE OF PUSH
BUTTON SWITCH**

4,218,602 A * 8/1980 Creech 200/302.3
4,861,950 A * 8/1989 Yanai et al. 200/5 R
5,258,592 A * 11/1993 Nishikawa et al. 200/302.3
5,603,400 A * 2/1997 Goto et al. 200/302.3

(75) Inventors: **Yasuhiko Kawasaki**, Fussa (JP);
Shigeru Kato, Ome (JP); **Tohru**
Tanigawa, Tokorozawa (JP)

(73) Assignee: **Casio Hitachi Mobile**
Communications Co., Ltd., Tokyo (JP)

FOREIGN PATENT DOCUMENTS

JP 2001-222927 8/2001

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

* cited by examiner

(21) Appl. No.: **11/446,938**

Primary Examiner—Elvin Enad

Assistant Examiner—Lheiren Mae A. Anglo

(22) Filed: **Jun. 5, 2006**

(74) *Attorney, Agent, or Firm*—Cohen Pontani Lieberman &
Pavane LLP

(65) **Prior Publication Data**

US 2007/0034493 A1 Feb. 15, 2007

(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

Jun. 9, 2005 (JP) 2005-170168

(51) **Int. Cl.**
H01H 13/06 (2006.01)

(52) **U.S. Cl.** **200/302.2; 200/302.1**

(58) **Field of Classification Search** 200/302.2,
200/302.1, 302.3

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,170,104 A * 10/1979 Yamagata 368/289

9 Claims, 5 Drawing Sheets

